

Title (en)

DETECTING MOTION BASED ON DECOMPOSITIONS OF CHANNEL RESPONSE VARIATIONS

Title (de)

DETEKTION VON BEWEGUNG AUF BASIS VON ZERSETZUNGEN VON KANALANTWORTVARIATIONEN

Title (fr)

DÉTECTION D'UN MOUVEMENT BASÉE SUR DES DÉCOMPOSITIONS DE VARIATIONS DE RÉPONSE DE CANAL

Publication

EP 3676634 A4 20210421 (EN)

Application

EP 17922929 A 20171031

Priority

- US 201715691195 A 20170830
- CA 2017051291 W 20171031

Abstract (en)

[origin: US10051414B1] In a general aspect, motion is detected using vector representations of channel responses. In some aspects, a first set of channel responses are obtained based on wireless signals transmitted through a space during a first time period. From the first set of channel responses, a set of orthogonal axes in a frequency vector domain are determined. A second channel response is obtained based on a wireless signal transmitted through the space during a second time period, and a channel vector representing the second channel response in the frequency vector domain is determined. Motion of an object in the space is detected based on a projection of the channel vector onto one of the set of orthogonal axes.

IPC 8 full level

G01S 13/52 (2006.01); **H04W 4/02** (2018.01)

CPC (source: EP KR US)

G01S 5/0273 (2013.01 - KR US); **G01S 7/006** (2013.01 - EP); **G01S 13/003** (2013.01 - EP); **G01S 13/56** (2013.01 - EP); **H04W 4/02** (2013.01 - KR US); **H04W 4/029** (2018.01 - EP)

Citation (search report)

- [A] US 9524628 B1 20161220 - OMER MOHAMMAD [CA], et al
- [A] US 9584974 B1 20170228 - OMER MOHAMMAD [CA], et al
- See references of WO 2019041019A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

US 10051414 B1 20180814; CA 3071887 A1 20190307; CN 111065935 A 20200424; CN 111065935 B 20230915; EP 3676634 A1 20200708; EP 3676634 A4 20210421; EP 3676634 B1 20230308; JP 2021500532 A 20210107; JP 7053801 B2 20220412; KR 102457175 B1 20221020; KR 20200040789 A 20200420; WO 2019041019 A1 20190307

DOCDB simple family (application)

US 201715691195 A 20170830; CA 2017051291 W 20171031; CA 3071887 A 20171031; CN 201780094355 A 20171031; EP 17922929 A 20171031; JP 2020511998 A 20171031; KR 20207006041 A 20171031